

Fig. 1

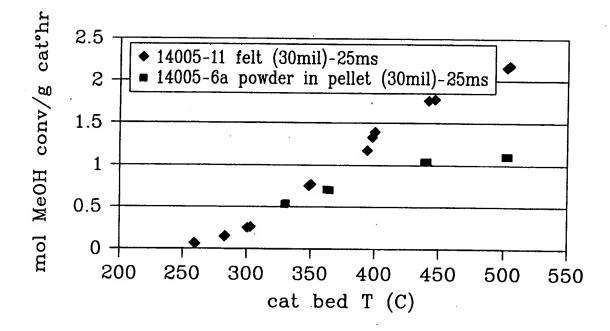


Fig. 2

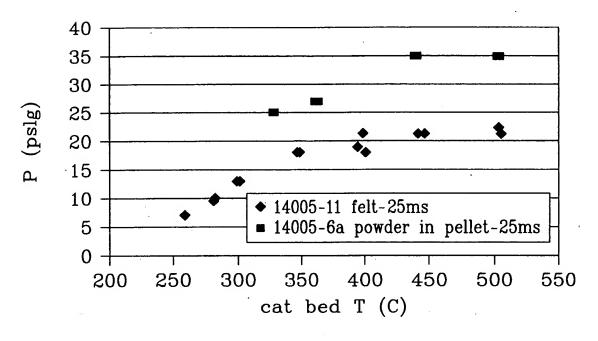
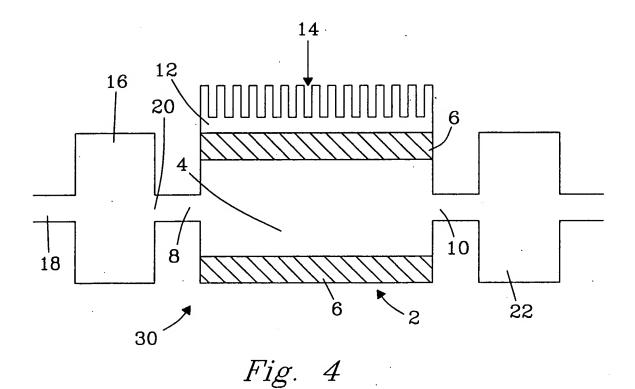
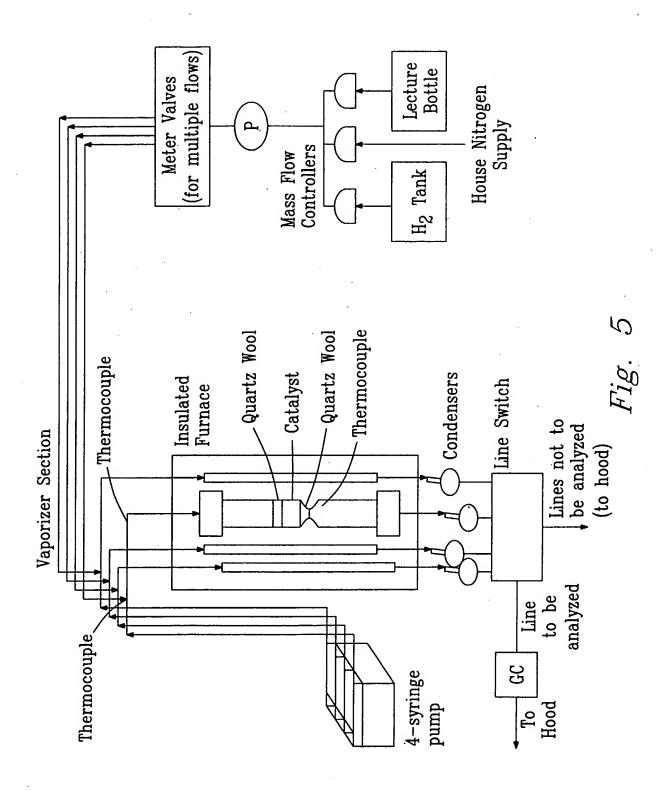
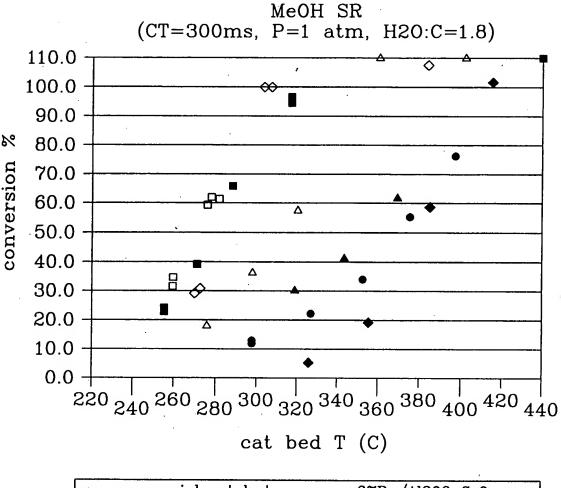


Fig. 3



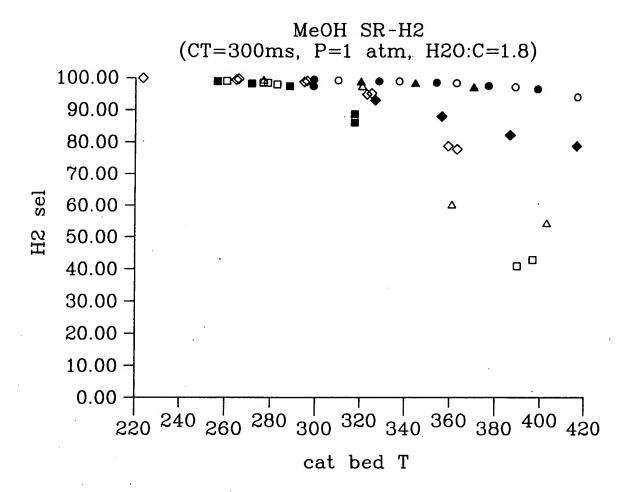




- ◆ commercial catalyst
- ♦ 8%Pd-1.5%Ru/Zr02-Ce0
- Ru/Al203

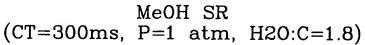
- ▲ 3%Ru/Al203-Ce0
- △ 3%Ru/Zr02-Ce0
- 5%Pd-5%Ru/Zr02-Ce0
- □ 5%Pd-5%Ru/Zr02-Ce0

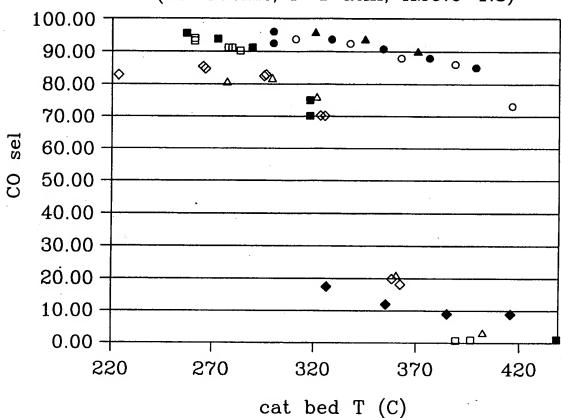
Fig. 6



- commercial catalyst
 - Ru/Al203
- 3%Ru/Al203-0.6%K
- 3%Ru/Al203-Ce0
- 3%Ru/Zr02-Ce0
- 5%Pd-5%Ru/Zr02-Ce0
- 5%Pd-5%Ru/Zr02-Ce0
- 8%Pd-1.5%Ru/Zr02-Ce0

Fig. 7





- commercial catalyst 3%Ru/Zr02-Ce0 Ru/Al203Ru/Al203-K 5%Pd-5%Ru/Zr02-Ce0
 - □ 5%Pd-5%Ru/Zr02-Ce0
 - 3%Ru/Al203-Ce0 8%Pd-1.5%Ru/Zr02-Ce0

Fig. 8

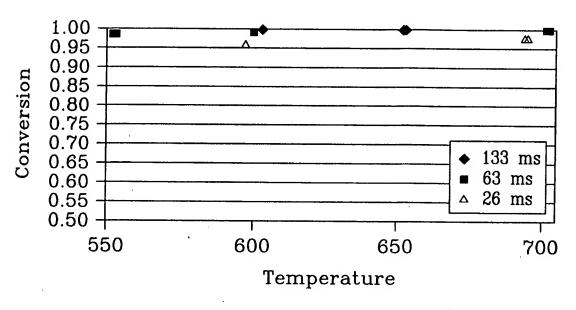
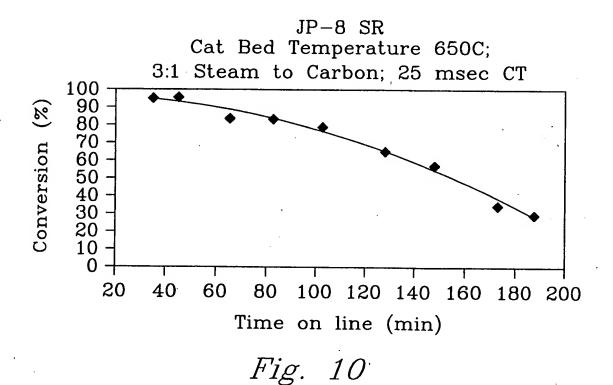
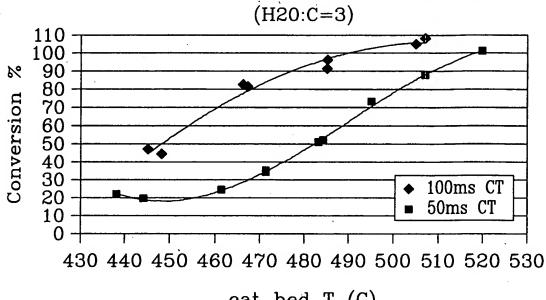


Fig. 9



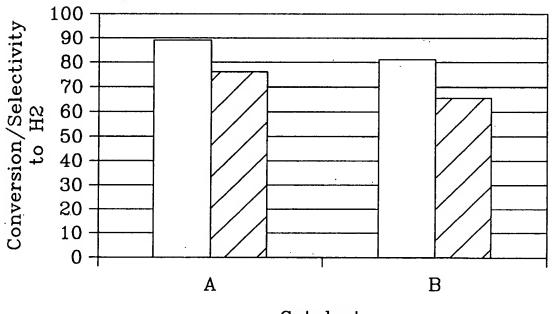
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Syn Fuel SR 13814-115 powder (R1)



cat bed T (C)

Fig. 11



Catalyst

- Conversion
- Sel to H2

Fig. 12